

عنوان مقاله:

Construction of recombinant baculovirus displaying anti-her2 scFv for targeting BT-474 breast cancer cells

محل انتشار:

دوازدهمین کنگره بین المللی سرطان پستان (سال: 1394)

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خلاصه مقاله:

Introduction & Aim: The human epidermal growth factor receptor 2 (HER2) plays an important role in cell growth and overexpressed in 30% of human breast cancers. In recent studies, a valuable small molecule, single-chain variable fragments (scFv) developed for selective molecular targeting. Viral vectors displaying scFv fragments hold promise for the development of targeted gene therapy vectors. In this study, we constructed a recombinant baculovirus displaying anti-her2 scFv and investigated the effectiveness of its targeting in BT-474 human breast cancer cells. **Methods:** Recombinant plasmid pCMV-EGFP anti-her2scFv pFAST Bac1 was constructed according to the manual of Bac-To-Bac Baculovirus Expression system Invitrogen. The identified recombinant plasmid was transferred into Escherichia coli DH10Bac to allow the generation of a recombinant bacmid. After transfected the recombinant bacmid into the SF9 insect cells, recombinant baculovirus displaying anti-her2 scFv expressing EGFP (pCMV-EGFP-anti her2scfv) was produced. BT-474 cell lines were infected with the recombinant baculovirus. A western blot analysis was used to verify the expression product in SF9 cells. In addition, the targeting was evaluated via fluorescent microscopy. **Results:** The recombinant bacmid pCMV-EGFP anti-her2scFv was successfully constructed. The antigen binding activity of the BV-displayed anti-her2 scFv molecules was confirmed by ELISA method. The greenfluorescence was also observed in BT-474 breast cancer cells infected with the recombinant virus under the fluorescent microscope. **Conclusion:** These results suggest that the recombinant baculovirus displaying anti-her2 scFv successfully targeted BT-474 breast cancer cells and expressed EGFP in these cells. Also, it has the potential for using in the breast cancer therapy

کلمات کلیدی:

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